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Monday, April 06, 2009

Money and the efficiency of plunder

(Note to readers -- after several months of posting reruns, I am back to doing original posts until further notice).

Arnold Kling describes his militaristic theory of the origins of money, and kindly also quotes and refers readers to my theory (or set of theories, as I posit that shell proto-money played a crucial role in several different kinds of hunter-gatherer transactions). Here is the gist of Kling's theory:

> Imagine that you're a warlord leading a band of soldiers. Your business model is that your soliders prey on farmers, taking plunder and tribute. To help motivate your soldiers, you promise them a share of the booty. When the band of warriors is small, the promises can be verbal and informal. However, in order to organize a large army, you need formal, written contracts. Lacking lawyers and xerox machines, you make little carvings on metal, hand them out to soldiers, and say, "After the battle, turn this in to the clerk and we'll give you a share of captured slaves and grain and stuff."

There may not be as much contrast between our theories as Kling suggests. We both seem to agree that the traditional economists' explanation of money emerging from a barter market that otherwise obeyed the principles of efficient modern markets is not historically sound (although I do believe it is theoretically and empirically sound as a theory of the way things *can* happen -- money-like intermediate commodities can and have been observed to emerge from barter markets). Where we may differ, and perhaps not by much, is on the role of coercion. I believe that both coercive and voluntary transactions (and transactions that partook of both components) were important, and that the voluntary transactions were not efficient market exchanges:

> Voluntary spot trades are not the only kinds of transactions that benefit from lower transaction costs. This is the key to understanding the origin and evolution of money. Family heirlooms could be used as collateral to remove the credit risk from delayed exchanges. [As explained elswhere in the article, these were typically exchanges that involved very high transaction costs. I'd add in clarification now that the closest modern economic model of them would be bilateral monopoly, not spot exchange on an efficient market]. *The ability of a victorious tribe to extract tribute from the vanquished was of great benefit to the victor . The victor's ability to collect tribute benefited from some of the same kinds of transaction cost techniques as did trade. So did the plaintiff in assessment of damages for offenses against custom or law* [emphasis added], and kin groups arranging a marriage. Kin also benefited from timely and peaceful gifts of wealth by inheritance. The major human life events that modern cultures segregate from the world of trade benefited

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Nick Szabo

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"Like most blogs worth my attention, this blog is updated only infrequently. That is because the authors of blogs worth my attention only post when they have something to say that is true, relevant and not already known by their audience. Most of the human race does not have the skill to know when an idea has these three properties. The skill is particularly rare in the fields of politics and economics, which is why this blog is such a rare and valuable thing." -- Richard Hollerith

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> no less than trade, and sometimes more so, from techniques that lowered transaction costs. None of these techniques was more effective, important, or early than primitive money -- collectibles.
>
> ...
>
> Warfare involved, among other things, killing, maiming, torture, kidnapping, rape, and the extortion of tribute in exchange for avoiding such fates. When two neighbor tribes were not at war, one was usually paying tribute to the other. Tribute could also serve to bind alliances, achieving economies of scale in warfare. Mostly, it was a form of exploitation more lucrative to the victor than further violence against the defeated.
>
> Victory in war was sometimes followed by an immediate payment from the losers to the victims. Often this just took the form of looting by the enthusiastic victors, while the losers desperately hid their collectibles. More often, tribute was demanded on a regular basis. In this case, the triple coincidence could and sometimes was avoided by a sophisticated schedule of payments in kind that matched the losing tribe's ability to supply a good or service with the victor's demand for it. However, even with this solution primitive money could provide a better way -- a common medium of value that greatly simplified the terms of payment – very important in an era when terms of the treaty could not be recorded but had to be memorized. In some cases, as with the wampum as used in the Iriquois Confederacy, the collectibles doubled as a primitive mnemonic device that, while not verbatim, could be used as an aid to recall the terms of the treaty. For the winners, collectibles provided a way to collect tribute at closer to the Laffer optimum. For the losers, collectibles buried in caches provided a way to "under-report", leading the victors to believe the losers were less wealthy and thus demand less than they might. Caches of collectibles also provided insurance against over-zealous tribute collectors. Much of the wealth in primitive societies escaped the notice of the missionaries and anthropologists due to its highly secretive nature. Only archeology can reveal the existence of this hidden wealth.
>
> Hiding and other strategies presented a problem that tribute collectors share with modern tax collectors – how to estimate the amount of wealth they can extract. Value measurement is a thorny problem in many kinds of transactions, but never more so than in the antagonistic collection of tax or tribute. In making these very difficult and nonintuitive trade-offs, and then executing them in a series of queries, audits, and collection actions, tribute collectors efficiently optimized their revenue, even if the results seemed quite wasteful to the tribute payer.
>
> Imagine a tribe collecting tribute from several neighbor tribes it previously defeated in war. It must estimate how much it can extract from each tribe. Bad estimates leave the wealth of some tribes understated, while forcing others to pay tribute based on estimates of wealth they don't actually have. The result: the tribes that are hurt tend to shrink. The tribes that benefit pay less tribute than could be extracted. In both cases, less revenue is generated for the victors than they might be able to get with better rules. This is an application of the Laffer curve to the fortunes of specific tribes. On this curve, applied to income taxes by the brilliant economist Arthur Laffer, as the tax rate increases, the amount of revenue increases, but at an increasingly slower rate than the tax rate, due to increased avoidance, evasion, and most of all disincentive to engage in the taxed activity. At a certain rate due to these reasons tax revenues are optimized. Hiking the tax rate beyond the Laffer optimum results in lower rather than higher revenues for the government.

We do seem to differ in that Kling's account is basically an account of the origins of coinage in the agricultural era, and mine is an account of the origins of shell proto-money in the hunter-gatherer era. As indicated above, I believe both coercion and voluntary transactions (and admixtures of same) played an important role in the hunter-gatherer era, and as a general matter that's also true of the agricultural era.

I have very little disagreement with Kling's account of the importance of coercion in the origin of coinage. Indeed, here's what I had to say about the origins of coinage:

> Given what we have seen about the benefits of proto-money to tribute and tax collectors, as well as the critical nature of the value measurement problem in optimally coercing such payments, it is not surprising that tax collectors, specifically

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> the kings of Lydia, were the first major issuers of coinage. The king, deriving his revenue from tax collection, had a strong incentive to measure to value of wealth held and exchanged by his subjects more accurately. That the exchange also benefited from cheaper measurement by traders of the medium of exchange, creating something closer to efficient markets, and allowing individuals to enter into the marketplace on a larger scale for the first time, was for the king a fortuitous side effect.

My account of coinage differs from Kling only in that I'm looking at the measurement problem that occurs when collecting the plunder; he is looking at the measurement problem that occurs when distributing the plunder out to the soldiers. Both are important. Indeed I have also discussed the latter before on this blog (I don't recall the origins of the idea -- I may have read it somewhere -- a bleg to my kind readers, if you know of a reference, please post it in the comments):

> Markets will tend to standardize on whatever the dominant transactor, the party that controls the largest plurality of cash flow, standardizes on, and in most historical societies the dominant transactions were tax collection and the payment of those taxes to soldiers.

By "dominant" here I just mean constituting the plurality (the largest player), not the majority of the value of all transactions, whether coercive or voluntary or some admixture of same. Coinage made measuring the value of both plunder and the distribution of plunder more accurate: both were important in increasing the efficiency of plunder and giving rise to coinage. More efficient exchanges, resembling more spot exchanges than bilateral monopoliies, and thus a larger tax base, were a fortuitous consequence for the Lydian kings (and later for the Greeks who eventually conquered the relatively coinless Persians).

The issue of coercion is also deeply implicated in the origins of agriculture itself. After all, hunter-gatherers were expert botanists compared to the modern layman. They were perfectly well aware that one could plant seeds (and shoots, for asexual reproduction) and have them grow, and could have easily learned the basic techniques associated with early agriculture once they had experimented with this knowledge. Yet these expert botanists with brains the same size as ours existed for 100,000 years before the agricultural breakthrough occured. The problem was not one of farming technique, it was one of securing this capital investment from fellow tribe members and foreign tribes. Only once this problem in coercion and transaction costs was solved could agricultural society appear. More here and here.

Posted by Nick Szabo at 6:21 PM

4 comments:

Anonymous said...

So, it would seem that we haven't done ourselves, as individuals, a whole lot of good by developing agriculture as it clearly has been used to subjugate everybody who was weaker.

It seems obvious we need an organised society to reach the technological age. Our spiritual development has not kept up with our technological advances though.

Life, I guess.

9:54 PM

Anonymous said...

In America, the first government-issued paper money entered circulation in 1685. The payroll ship from France was late in arriving to a French fort in Quebec, and the intendant, Jacques Demuelles, issued IOU's written on cut-up playing cards, payable out of the first coin to arrive from France. The money was a boon to the local economy.

The second governmental issue occurred in 1690, when Massachusetts issued IOU's to pay soldiers, the IOU's being acceptable for taxes owed to Massachusetts. These IOU's were also immensely stimulative to the local economy.

--Mike Sproul

9:33 AM

Graham Asher said...

"Yet these expert botanists with brains the same size as ours existed for 100,000 years before the agricultural breakthrough occurred."

That seems unlikely to me. It is more likely that intelligence increased slowly over a long period, eventually reaching the required threshold in some areas. This point of view is argued persuasively and in some detail by Michael H. Hart in 'Understanding Human History'.

11:14 AM

nick said...

Graham Asher:
It is more likely that intelligence increased slowly over a long period, eventually reaching the required threshold in some areas.
Gradual genetic imrovement (or even abrupt genetic improvement) doesn't explain the abrupt yet dispersed nature of the transition: why after 100,000 years agriculture appeared in widely disparate and genetically distinct parts of the globe (Middle East, Far East, New Guinea, and the Americas) within the space of a few thousand years.

More likely is a meme, probably related to small groups securing capital investments (applicable to both fixed for plants or mobile for animal herding) instead of larger hunting areas. Alas, the nature and spread of such a meme is hard to reconstruct. A good approach would be a comparison between cultures where this meme apparently spread, e.g. New Guinea, with areas where it apparently did not, e.g. Australia which lacked agriculture. AFAIK nobody has made such a study, but I would be very happy to learn of references about such studies.

3:53 PM

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